

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

YOU ME PATENT & LAW FIRM

Seolim Bldg. 649-10 Yoksam-dong, Kangnam-ku Seoul 135-080 Republic of Korea

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)



Date of mailing
(day/month/year) 23 AUGUST 2005 (23.08.2005)

Applicant's or agent's file reference

OPP051377KR

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2005/001410

International filing date (day/month/year)

13 MAY 2005 (13.05.2005)

Priority date(day/month/year)

13 MAY 2004 (13.05.2004)

International Patent Classification (IPC) or both national classification and IPC

IPC7 H01M 4/88

Applicant

LG CHEM, LTD. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon
302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Date of completion of this opinion

22 AUGUST 2005 (22.08.2005)

Authorized officer

KIM, Seung Soo

Telephone No. 82-42-481-5581



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2005/001410

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ on paper
☐ in electronic form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in electronic form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/KR2005/001410

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims	1-13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations :

Reference is made to the following documents:

- D1) US 2004-18937 A
- D2) US 6136463 A
- D3) JP 2001-307751 A
- D4) JP 2000-277123 A

I-Novelty:

Claim 1 of the present invention is concerned with a system for manufacturing a membrane electrode assembly for a fuel cell comprising catalytic solution preheating apparatus, carrier gas preheater, cathode catalytic solution spraying nozzle and anode catalytic solution spraying nozzle. Although D1-D4 cited in the international search report disclose a system or a method for manufacturing a membrane electrode assembly by catalytic coating onto the surface of polymer electrolyte membrane, technical features comprising an apparatus for preheating catalytic solution are not described in D1-D4. Accordingly, the subject matter of claim 1 seems to be novel.(PCT Article 33(2)). And also, independent claim 9 on a method for manufacturing a membrane electrode assembly for a fuel cell also has novelty as it includes a novel manufacturing system of claim 1. In addition, claims 2-8 and 10-13 comply with PCT Article 33(2) as they are dependent claims.

II-Inventive step:

1) Concerning claims 1 and 9 (Independent claims)

The references D1-D4 do not disclose an apparatus and a method for manufacturing a membrane electrode assembly for a fuel cell comprising catalytic solution preheating apparatus. They just describe a system or a method for manufacturing a membrane electrode assembly by a general catalytic coating method. In addition, it is not obvious from the references D1-D4 by the skilled person in the art. Consequently, there is no suggestion in any of the references, either alone or in combination which would lead to the solution posed by the present invention.